C
M38aH
1910/11 Sup.

THE M. A. C. BULLETIN
Vol. III. No. 5. Amherst, Mass. September, 1911

SUPPLEMENT TO 1911 CATALOG

The Massachusetts Agricultural College

ANNOUNCEMENT OF COURSES FOR 1911-1912

PUBLISHED SIX TIMES A YEAR BY THE COLLEGE
January, February, March, May, September, October

THE M. A. C. BULLETIN
Vol. III. No. 5. Amherst, Mass. September, 1911

SUPPLEMENT TO 1911 CATALOG

The Massachusetts Agricultural College

ANNOUNCEMENT OF COURSES FOR 1911-1912

PUBLISHED SIX TIMES A YEAR BY THE COLLEGE
January, February, March, May, September, October

Massachusetts Agricultural College Faculty 1911

KENYON L. BUTTERFIELD, A. M., LL.D., President's House
President of the College and Head of Division of Rural Social Science.

GEORGE F. MILLS, A. M., 46 Amity Street
Dean of the College and Professor of Languages and Literature.

CHARLES F. FERNALD, Ph.D., 3 Hallock Street
Honorary Director of the Graduate School.

WILLIAM P. BROOKS, Ph. D., 28 Northampton Road
Director of the Experiment Station and Lecturer on Soil Fertility.

WILLIAM D. HURD, M. Agr., 82 Pleasant Street
Director of Extension Work.

FRANK A. WAUGH, M. Sc., M. A. C.
Head of Division of Horticulture and Professor of Landscape Gardening.

JAMES A. FOORD, M. Sc., Nutting Avenue
Head of Division of Agriculture and Professor of Farm Administration.

ROBERT J. SPRAGUE, Ph., D.,
Head of Division of the Humanities and Professor of Economics and Sociology.

JOSEPH B. LINDSEY, Ph. D., 47 Lincoln Avenue
Goessmann Professor of Chemistry.

CHARLES WELLINGTON, Ph. D., 34 Amity Street
Professor of Chemistry.

JAMES B. PAIGE, B. Sc., D. V. S., 42 Lincoln Avenue
Professor of Veterinary Science.

GEORGE E. STONE, Ph. D., Mount Pleasant
Professor of Botany.

PHILIP B. HASBROUCK, B. Sc., 130 Pleasant Street
Professor of Physics and Registrar of the College.

JOHN E. OSTRANDER, A. M., C. E., 33 North Prospect Street
Professor of Mathematics and Civil Engineering.

HENRY T. FERNALD, Ph. D., 44 Amity Street
Professor of Entomology and Acting Director of the Graduate School.

GEORGE C. MARTIN, C. E., Captain 18th U. S. Infantry,
Professor of Military Science and Tactics.
35 North Prospect Street

EDWARD A. WHITE, B. S., Mount Pleasant
Professor of Floriculture.

WILLIAM R. HART, A. M., 97 Pleasant Street
Professor of Agricultural Education.

FRED C. SEARS, M. Sc., Mount Pleasant
Professor of Pomology.

FRED C. KENNEY, Mount Pleasant
Treasurer of the College.

ROBERT W. NEAL, A. M., Woodside Avenue
Associate Professor of English.

JOSEPH S. CHAMBERLAIN, Ph. D., 16 North Prospect Street
Associate Professor of Organic and Agricultural Chemistry

WILLIAM P. B. LOCKWOOD, B. Sc. Agr., 5 East Pleasant Street
Associate Professor of Dairying.

ELMER K. EYERLY, A. M., Amity Street
Associate Professor of Rural Sociology.

FREDERICK F. MOON, A. B., M. F., 6 Allen Street
Associate Professor of Forestry.

JOHN A. McLEAN, A. B., B. Sc. Agr., Prospect House
Associate Professor of Animal Husbandry.

JOHN C. GRAHAM, B. Sc., North Amherst
Associate Professor of Poultry Husbandry.

GUY C. CRAMPTON, Ph. D., 9 Philips Street
Associate Professor of Entomology.

*S. FRANCIS HOWARD, M. Sc., 10 Allen Street
Assistant Professor of Chemistry.

A. VINCENT OSMUN, M. Sc., North Amherst
Assistant Professor of Botany.

SIDNEY B. HASKELL, B. Sc., 5 Fearing Street
Assistant Professor of Agronomy.

CLARENCE E. GORDON, Ph. D., Nutting Avenue
Assistant Professor of Zoology and Geology.

FLOYD B. JENKS, B. Sc. Agr., 12 Cottage Street
Assistant Professor of Agricultural Education.

EDGAR L. ASHLEY, A. M., Prospect House
Assistant Professor of German.

ANDERSON A. MACKIMMIE, A. B., Nutting Avenue
Assistant Professor of French.

ALEXANDER E. CANCE, Ph. D., 9 Fearing Street
Assistant Professor of Agricultural Economics.

FREDERICK B. McKAY, A. B.,. . 15 Fearing Street
Assistant Professor of English and Public Speaking.

BURTON N. GATES, Ph. D., 42 Lincoln Avenue
Assistant Professor of Beekeeping.

EDWARD M. LEWIS, A. M., Amity Street
Assistant Professor of English and Assistant Dean of the College.

---

*On leave of absence.

Charles A. Peters, Ph. D., 6 High Street
Assistant Professor of Inorganic and Soil Chemistry.
Curry S. Hicks, B. Sc., 8 Allen Street
Assistant Professor of Physical Education and Hygiene.
Frederick L. Yeaw, B. Sc.,
Assistant Professor of Market Gardening.
George S. Gage, Ph. D.,
Assistant Professor of Animal Pathology.
George N. Holcomb, A. B., S. T. B.,
Lecturer in History.
Frank W. Rane, M. F., Boston
Lecturer in Forestry.
C. Robert Duncan, B. Sc., North Prospect Street
Instructor in Mathematics.
Charles R. Green, B. Agr., Mount Pleasant
Librarian.
Alvah J. Norman, M. Sc., 7 Philips Street
Extension Instructor in Pomology.
George F. E. Story, B. Sc., 10 Allen Street
Extension Instructor in Dairying.
Arthur K. Harrison, 8 Allen Street
Instructor in Landscape Gardening.
Chester A. Butman, B. Sc.,
Instructor in Physics.
Willard A. Wattles, A. M.,
Instructor in English.
William L. Harmount, A. B.,
Instructor in French.
Albert Grauer, A. M.,
Instructor in German.
Elvin L. Quaife, B. Sc. Agr.,
Instructor in Animal Husbandry.
William L. Machmer, A. M., Kendrick Place
Instructor in Mathematics.
Willard A. Turner, Ph. B.,
Assistant in Chemistry.
Helena Goessmann, Ph. M., Amity Street
Assistant in English.
Samuel R. Parsons, B. Sc., 9 Fearing Street
Assistant in Mathematics and in Military Science.
Frederick A. McLaughlin, B. Sc.,
Assistant in Botany.
Herbert J. Baker, B. Sc.,
Assistant in Agronomy.

Abstract of Courses to be Offered in 1911-12

(Odd numbers indicate first semester courses; even numbers, second semester. When no description is given, the course will be found sufficiently described in the catalog of 1910-11. The announcements here made are subject to such modification as may be rendered necessary by the exigencies of administration. Unless otherwise specified, elective courses are open to both juniors and seniors.)

Division of Agriculture

PROFESSOR FOORD.

Required Courses

2. ELEMENTARY AGRICULTURE—Animal Husbandry 2 takes the place of this course.

Elective Courses

3. AGRICULTURAL SEMINAR— PROFESSOR FOORD

AGRONOMY

ASSISTANT PROFESSOR HASKELL, DR. BROOKS, MR. BAKER.

Required Course

1. SOILS AND FERTILIZERS—
ASSISTANT PROFESSOR HASKELL.

3. FIELD AND FORAGE CROPS—
ASSISTANT PROFESSOR HASKELL.

4. FIELD CROP IMPROVEMENT—This course takes up the question of breeding and improvement of the crops studied in Agronomy 3; study of seed stock as offered in the market, testing of germination, purity, and estimation of the valuation of the same; and the methods of production, harvesting and curing. Prerequisites, Agronomy 3, Botany 2; juniors and seniors; one laboratory period and two lecture periods weekly. Credit 3. ASSISTANT PROFESSOR HASKELL.

5. ADVANCED SOILS—A field, laboratory and lecture course on soils. Their nature, composition, physical qualities, improvement. Field work, as far as the season allows, consists

of detailed soil surveys in different parts of the Connecticut Valley; this followed by laboratory work on the physical properties of the soil collected, on the effect of fertilizers on the soil, and on the mixing of fertilizer. Prerequisites, Agronomy 1, Chemistry 2; juniors and seniors; one four hour laboratory period weekly. Credit 3.

Assistant Professor Haskell.

6. DRAINAGE AND IRRIGATION—A field and lecture course on soil improvement, by drainage and irrigation. As a thesis each man is required to take an area of wet or swampy land and to present plans and estimates for its reclamation. Prerequisites, Agronomy 1, Mathematics 8, juniors and seniors; one four hour laboratory period and one lecture period weekly. Credit 3. Assistant Professor Haskell.

8. MANURES AND FERTILIZERS— Dr. Brooks

ANIMAL HUSBANDRY

Associate Professor McLean, Mr. Quaife.

Required Courses

2. ELEMENTARY JUDGING—A study of the different market classes and grades of horses, cattle, sheep and swine. The purpose of this course is to familiarize beginners with the different classes of stock, and to give them a grounding in live stock judging. Text—Craig's Live Stock Judging—Two judging laboratories each week, Freshmen. Credit 2.

Associate Professor McLean and Mr. Quaife.

Elective Courses

4. BREEDS AND TYPES OF LIVE STOCK—A course covering the origin, history, development and characteristics of the different breeds of horses, cattle, sheep and swine. One lecture, two laboratories a week. Prerequisite, Animal Husbandry 2. Text—Plumb's Breeds and Types of Farm Animals. Sophomores. Credit 3.

Associate Professor McLean and Mr. Quaife.

5. PRINCIPLES OF BREEDING—Prerequisite, Animal Husbandry 4, and Elementary Zoology. Text—Thompson's Heredity. Two lectures per week. Juniors. Credit 2.

Associate Professor McLean.

7. LIVE STOCK MANAGEMENT—A course upon the feeding, care and management of all classes of live stock throughout the different seasons; the construction of cattle stables, hog houses, sheep pens and horse barns will be dealt with; the care of the pregnant animal previous to, during, and after parturition; the care of young stock, of sires, and in short, all phases of live stock management. In laboratory, halter breaking, harnessing, driving, breaking to drive, casting, fit-

ting for show, and the various other phases of horse management will be taken up. Similarly the practical phases of cattle, sheep and swine management will be fully treated. Two lectures and one laboratory. Juniors. Prerequisite, Animal Husbandry 4. Credit 3. MR. QUAIFE.

8. ADVANCED STOCK JUDGING—This course is designed to equip Animal Husbandry students in the judging of classes of different types of live stock, to strengthen them in the selection of superior sires, and equip them for stock judging at fairs. Visits will be made to the best herds of the various breeds of stock in the state. Judging teams to represent the college will be largely selected from this class. Prerequisite, Animal Husbandry 4. Two laboratory periods, Juniors. Credit 2. ASSOCIATE PROFESSOR MCLEAN.

10. FEEDS AND FEEDING—A study of the principles of animal nutrition and the methods of horse feeding, and feeding for the production of beef, pork, mutton, wool and milk. Text—Henry's Feeds and Feeding. Prerequisite, Animal Husbandry 4, five lectures per week. Seniors. Credit 3. ASSOCIATE PROFESSOR MCLEAN.

11. HERD AND STUD BOOK STUDY—An advanced course of the study of the breeds of live stock, familiarizing the student with the most productive sires, and dams of the various breeds, and the successful lines and methods of breeding. Prerequisites, Animal Husbandry 5 and 8. Two hours per week. Seniors. Credit 2. ASSOCIATE PROFESSOR MCLEAN.

DAIRYING

ASSOCIATE PROFESSOR LOCKWOOD, MR. STORY.

Elective Courses

1. MILK AND ITS COMPOSITION— ASSOCIATE PROFESSOR LOCKWOOD
2. MARKET MILK— ASSOCIATE PROFESSOR LOCKWOOD
3. BUTTER MAKING— ASSOCIATE PROFESSOR LOCKWOOD
4. MANUFACTURED MILK PRODUCTS— ASSOCIATE PROFESSOR LOCKWOOD

FARM ADMINISTRATION

PROFESSOR FOORD.

Elective Courses

3. FARM EQUIPMENT— PROFESSOR FOORD
4. FARM MANAGEMENT— PROFESSOR FOORD

POULTRY HUSBANDRY

Associate Professor Graham.

Elective Courses

1. ELEMENTS OF POULTRY CULTURE—This course consists of a comprehensive study of poultry house construction, poultry house equipment, winter egg production, breeds and types of poultry; two lectures, two credits.
   Associate Professor Graham.
2. ELEMENTS OF POULTRY CULTURE—This is a continuation of Course 1, treating the subjects of incubation, brooding, care of growing stock, market poultry, including capons, roasters and broilers, and diseases of poultry; two lectures, two credits. Associate Professor Graham.
3. POULTRY PRACTICE WORK—This is a practical laboratory course in caponizing, killing and picking, dressing and packing poultry, also sorting and preparing eggs for market. Must be preceded by or accompanied by Course 1. One laboratory period, one credit.
   Associate Professor Graham.
4. INCUBATION AND BROODING—In this course students are required to set up and operate incubators and brooders, make a systematic study of the development of the chick in the egg, and the care of sitting hens. This course must be preceded or accompanied by Course 2. One to three credits. Time to be arranged.
   Associate Professor Graham.
5. PEN MANAGEMENT—This is a practical laboratory course. Students are required to care for a pen of fowls, keeping accurate records of eggs produced, food consumed, weather conditions, health of fowls, and profit and loss. Prerequisite, Course 1, one credit. Time to be arranged.
   Associate Professor Graham.
6. POULTRY MANAGEMENT—Not given in 1911-12.
7. ADVANCED POULTRY JUDGING—Not given in 1911-12.

Division of Horticulture

Professor Waugh.

Required Courses (General)

2. NURSERY PRACTICE— Mr. Norman

Elective Courses (General)

3. PLANT MATERIALS— Professor White
4. PLANT MATERIALS— Professor White
6. PLANT BREEDING—Not given in 1911-12.

FLORICULTURE

Professor White.

Elective Courses

1. GREENHOUSE MANAGEMENT— Professor White
2. GREENHOUSE DESIGN AND CONSTRUCTION— Professor White
3. FALL GREENHOUSE CROPS— Professor White
4. SPRING GREENHOUSE CROPS— Professor White

FORESTRY

Associate Professor Moon, Mr. Rane.

Elective Courses

1. DENDROLOGY AND SILVICULTURE— Associate Professor Moon
2. DENDROLOGY AND SILVICULTURE— Associate Professor Moon

3, 4. ADVANCED FORESTRY—An advanced course in Forestry open to Seniors who have had Forestry 1 and 2. It will include forest mensuration and finance, wood technology and preservation briefly. Lumbering with especial attention to New England methods will be considered, and finally a scheme of management for an assigned tract of forest worked out by each student. 3 hours, Credit 3. Associate Professor Moon

LANDSCAPE GARDENING

Professor Waugh, Mr. Harrison, ———

Elective Courses

1. ELEMENTS OF LANDSCAPE GARDENING— Mr. Harrison
2. ELEMENTS OF LANDSCAPE GARDENING— Mr. Harrison
3. GENERAL LANDSCAPE GARDENING— Professor Waugh
4. GENERAL LANDSCAPE GARDENING— Professor Waugh
5. THEORY OF LANDSCAPE ART— Professor Waugh
6. CONSTRUCTION AND MAINTENANCE—Detailed instruction in methods of construction, planting, carrying out plans, organization, reporting, accounting, etc.; maintenance work in parks and estates, its organization, management, cost, etc. 2 hours. Credit 2. Mr. Harrison
7. CIVIC ART— Professor Waugh
8. CIVIC ART— Professor Waugh

MARKET GARDENING

Assistant Professor Yeaw.

Elective Courses

2. ELEMENTS OF MARKET GARDENING—
   Assistant Professor Yeaw
3. ADVANCED MARKET GARDENING—
   Assistant Professor Yeaw

POMOLOGY

Professor Sears, Mr. Norman.

Elective Courses

1. PRACTICAL POMOLOGY— Professor Sears
2. PRACTICAL POMOLOGY— Professor Sears
3. SYSTEMATIC POMOLOGY— Professor Sears
4. COMMERCIAL POMOLOGY— Professor Sears

DRAWING

Mr. Harrison.

Elective Courses

1. FREEHAND DRAWING— Mr. Harrison
2. MECHANICAL DRAWING— Mr. Harrison

Division of Science

Chairman to be Elected.

BOTANY

Professor Stone, Assistant Professor Osmun, Mr. McLaughlin.

Required Courses

2. HISTOLOGY, PHYSIOLOGY, MORPHOLOGY AND CLASSIFICATION OF PLANTS—
   Assistant Professor Osmun

Elective Courses

3. CRYPTOGAMIC BOTANY—
   Assistant Professor Osmun
4. CRYPTOGAMIC BOTANY—
   Assistant Professor Osmun
5. PLANT PATHOLOGY—
   Professor Stone and Assistant Professor Osmun
7. PLANT PATHOLOGY— Professor Stone
8. PLANT PATHOLOGY— Professor Stone
9. ECONOMIC FUNGI— Professor Stone

10. ECONOMIC FUNGI— Professor Stone
11. PLANT PHYSIOLOGY— Professor Stone
12. PLANT PHYSIOLOGY— Professor Stone
13. PHYSIOLOGY AND PATHOLOGY OF SHADE TREES— Professor Stone
14. PHYSIOLOGY AND PATHOLOGY OF SHADE TREES— Professor Stone

GENERAL AND AGRICULTURAL CHEMISTRY

Professor Lindsey, Professor Wellington, Associate Professor Chamberlain, Assistant Professor Peters, Mr. Turner, Mr. Adams.

Required Courses

1. THE NON-METALS—
Assistant Professor Peters, Mr. Adams
2. THE COMMON METALS—
Assistant Professor Peters, Mr. Adams

Elective Courses

3. Not given in 1911-12.
4. QUALITATIVE ANALYSIS—
Assistant Professor Peters and Mr. Adams
5. ORGANIC CHEMISTRY—
Associate Professor Chamberlain
6. ORGANIC CHEMISTRY—
Associate Professor Chamberlain
7. AGRICULTURAL CHEMISTRY—
Associate Professor Chamberlain
8. AGRICULTURAL CHEMISTRY—
Associate Professor Chamberlain
9. QUANTITATIVE ANALYSIS—
Professor Wellington and Mr. Turner
10. QUANTITATIVE ANALYSIS—
Professor Wellington and Mr. Turner
13. PHYSIOLOGICAL CHEMISTRY—
Associate Professor Chamberlain
14. PHYSIOLOGICAL CHEMISTRY—
Associate Professor Chamberlain
15. Not given.
17, 18. AGRICULTURAL CHEMICAL ANALYSIS—Courses 17 and 18 may be best described under the following heads. The different divisions are not, however, separate courses,

but together make up the work of the two semesters in agricultural chemical analysis.

(*a*) Analysis of fertilizers, insecticides and fungicides.

The theory with a reasonable amount of practice in the subject, is given under the direct supervision of the professor in charge. The methods followed are in the first place comparative; then the preferred official methods are closely studied, especially with reference to their limitations.

(*b*) Analysis of agricultural soils.

The more important characteristics and ingredients in a few pronounced types of agricultural soils are determined and the student is encouraged to give further study to this line of work in an advanced or post-graduate course.

(*c*) Analysis of cattle feeds and dairy products.

A few of the more important coarse and concentrated feeds are prepared for analysis and analyzed, and by means of occasional lectures and discussions their relative merits as sources of nutrition are pointed out. The more prominent constituents in fresh and sour milk, cream, butter and cheese, are determined and a few of the more ordinary adulterations detected.

(*d*) Sugar analysis.

An introductory study to the chemistry of sugar making and refining, including the determination of sugar solutions of known strength by volumetric and gravimetric processes as well as by the aid of the polariscope.

Prerequisites, Courses 1, 2, 4, 9 and 10. Seniors: Lecture 1 hour, laboratory 8 hours. Credit 5.

Professor Wellington and Mr. Turner

19. Not given.

ENTOMOLOGY

Professor Fernald, Associate Professor Crampton, Assistant Professor Gates, Mr. Regan.

Elective Courses

1, 2. GENERAL AND ECONOMIC ENTOMOLOGY—Course 1 comprises a general introduction to the study of insects, including studies on their structure as applied to their identification; the principles of classification; a systematic examination of the different groups and of the most important economic insects of each group, including their life histories and habits, recognition of their work as shown in the collections, and methods for their control. The most important

insecticides and their preparation and application are also treated. Juniors, three lecture periods. Students electing Course 1 must also take Course 2. Credit 3.

Professor Fernald.

Course 2 is made up of laboratory and field work on the structure, habits and life histories of insects, examination of their work, methods of collecting, preserving, preparing insects for collections and classifying them. A continuation of Course 1. Two 2-hour laboratory periods. Credit 2.

Professor Fernald and Mr. Regan.

3. ADVANCED ENTOMOLOGY—

Professor Fernald, Associate Professor Crampton and Mr. Regan.

4. ADVANCED ENTOMOLOGY—

Professor Fernald, Associate Professor Crampton and Mr. Regan.

5. FOREST INSECTS—A study of insects injurious to forest trees and of methods for their control, with laboratory and field work on these insects and a study of what has been published about them. Seniors. Prerequisites, Entomology 1 and 2. One lecture and two two-hour laboratory field exercises. Credit 3. Professor Fernald.

8. BEE KEEPING—This course comprises a general consideration of the biology of the honey bee and of practical bee keeping. Some topics covered are: Phylogeny, life history, general behavior and instincts, structure, products, relations of bees to plants and the honey flora. The course aims particularly to afford first-hand, practical experience with bees, to the end of enabling their proper maintenance for any purpose, horticultural, educational, or apicultural. Special emphasis is given to the most modern methods of manipulation, for comb or extracted honey production, wax production, bee production, queen rearing, orchard and horticultural purposes. Bee diseases, a thorough understanding of which is fundamental to the industry, are considered in detail. So far as possible the work is made individual, in constructing materials and apparatus, as well as in manipulating the bees, a colony being assigned to each student. Seniors; Juniors may elect. Course 2 is a desirable preparation; 2 one-hour lectures; 1 two-hour laboratory period. Credit 3.

Assistant Professor Gates.

MATHEMATICS AND CIVIL ENGINEERING

Professor Ostrander, Mr. Duncan, Mr. Machmer, Mr. Parsons.

Required Courses

1. HIGHER ALGEBRA—Mr. Machmer and Mr. Parsons

2. HIGHER ALGEBRA—Mr. Machmer and Mr. Parsons
3. SOLID GEOMETRY— Mr. Duncan
4. PLANE TRIGONOMETRY— Professor Hasbrouck

Elective Courses

8. PLANE SURVEYING— Mr. Duncan
7. ANALYTIC GEOMETRY— Professor Ostrander
10. DIFFERENTIAL AND INTEGRAL CALCULUS— Professor Ostrander
11. HYDRAULICS AND SANITARY ENGINEERING— Professor Ostrander
12. ADVANCED SURVEYING— Professor Ostrander
15. ANALYTIC MECHANICS— Professor Ostrander

PHYSICS

Professor Hasbrouck, Captain Martin, Mr. Butman.

Required Courses

1. GENERAL PHYSICS— Professor Hasbrouck and Mr. Butman

Elective Courses

2. GENERAL PHYSICS— Mr. Butman
3. OPTICAL INSTRUMENTS AND LIGHT—Three hour lecture course open to Juniors and Seniors. 3 hours. Credit 3. Mr. Butman.
4. ELECTRICITY AND HEAT—Three hour lecture and laboratory course open to Juniors and Seniors. 3 hours. Credit 3. Mr. Butman.

[MATHEMATICS 4 (trigonometry) is, for convenience of grouping, listed under Mathematics, although in charge of the Department of Physics.]

VETERINARY SCIENCE

Professor Paige, Assistant Professor Gage.

Elective Courses

1. INTRODUCTORY BACTERIOLOGY— Professor Paige and Assistant Professor Gage
2. BACTERIOLOGY—A continuation of Course 1, taking up more advanced problems. Professor Paige and Assistant Professor Gage
3. VETERINARY SCIENCE— Professor Paige
4. VETERINARY SCIENCE— Professor Paige

ZOOLOGY AND GEOLOGY

Assistant Professor Gordon, Mr. McLaine.

Zoology

Required Courses

1. ELEMENTARY ZOOLOGY—
Assistant Professor Gordon

Elective Courses

3. INVERTEBRATE ZOOLOGY—
Assistant Professor Gordon
4. VERTEBRATE ZOOLOGY—
Assistant Professor Gordon
5. ANIMAL PARASITES— Assistant Professor Gordon
6. ANIMAL PARASITES— Assistant Professor Gordon
7, 8 and 9. ADVANCED ZOOLOGY—
Assistant Professor Gordon

Geology

Elective Courses

2. GENERAL GEOLOGY— Assistant Professor Gordon

Division of the Humanities

Professor Sprague.

ECONOMICS AND SOCIOLOGY

Professor Sprague.

Required Course

1. POLITICAL ECONOMY—An introductory course. A study of the nature and scope of economics; the evolution and organization of the present economic system, the principles of production, exchange and consumption. This course will take up such topics as value, rentals, population, labor and its problems, capital, interest and profits, systems and factors of production, tariffs and commerce. Students will be called upon to analyze industrial plants in actual operation. Text books, lectures and general discussions; a required course, but it may be taken in either Junior or Senior year; 3 hours. Credit 3. Professor Sprague.

Elective Courses

2. INDUSTRIAL PROBLEMS—A course in important economic questions of the time, following Economics 1. The

problems covered will be labor, transportation, taxation, etc. Lectures, assigned readings, and reports. 3 hours. Credit 3.
PROFESSOR SPRAGUE.

3. SOCIAL INSTITUTIONS AND SOCIAL PROBLEMS—This course is devoted to the study of the social institutions, such as the family, the church, state and property; and to such current social problems as divorces, race suicide, crime and prison reform, poverty and its relief, social effects of low wages, child labor, overwork, immigration and congestion of population. The later weeks of the semester will be given to a short introduction to sociological theory. The correctional and charitable institutions of Massachusetts will be studied in considerable detail. Readings, lectures, papers; 3 hours. Credit 3. PROFESSOR SPRAGUE.

4. MODERN SOCIAL REFORM MOVEMENTS—The history of property and its vital issues in modern times. The socialistic systems, anarchy, and communism. Systems of workingmen's insurance in Europe and America, and other methods of relief from the chances of life. Educational reforms, in process, to meet the demands of a new age, and legislative remedies for the evils of social change and maladjustment. The crisis of Christianity under modern capitalized industrialism. These topics indicate the nature of the subjects studied. This course follows Economics 3. Three hours. Credit 3. PROFESSOR SPRAGUE.

5. PUBLIC FINANCE, MONEY AND BANKING—This course follows Economics 1. It will take up taxation and the various systems for collecting public revenue in Europe and America, with the problems involved; the history of money and the systems of banking and finance now in operation; the causes and problems of economic crises and depressions; the currency problems of the United States. Readings, lectures and discussions. 3 hours. Credit 3.
PROFESSOR SPRAGUE.

6. ECONOMIC HISTORY—This course will be divided between the economic history of Europe and that of America. An outline history will be followed with special study of selected epochal periods and important topics. 3 hours. Credit 3. PROFESSOR SPRAGUE.

8. ANTHROPOLOGY; THE HISTORY OF HUMAN CIVILIZATION—The evolutionary origin and history of man; characteristics of primitive men, departure from the animal status, and the beginnings of civilization; development of industries, arts, and sciences; the growth of languages, warfare, migrations, and social institutions; a study of the powerful natural and human forces that have brought man

from the early stages to modern conditions, will constitute the subject matter of the course. For Seniors only. Three hours. Credit 3. PROFESSOR SPRAGUE.

HISTORY AND GOVERNMENT

ASSOCIATE PROFESSOR EYERLY, MR. HOLCOMB.

Elective Courses

1. ELEMENTS OF POLITICAL SCIENCE—Nature and scope of political science; origin and evolution of the state; systems of government in the principal European states; organization and working of the national and of the state governments of the United States; relation of government to political parties and to public opinion; the functions of government as related to labor and commerce. 3 hours. Credit 3. ASSOCIATE PROFESSOR EYERLY.

2. LOCAL POLITICAL INSTITUTIONS—A comparative study of the organization, functions and achievements of country and city groups, especially as these are concerned with such matters as taxation, finance, licenses, franchises, public ownership, highways, transportation and communication, water supply, fire protection, public lighting, markets, food inspection, garbage and sewage disposal, infectious diseases, housing conditions, police force, parks and playgrounds, libraries, schools, care of dependents. 3 hours. Credit 3. ASSOCIATE PROFESSOR EYERLY.

3. THE HISTORY OF NEW ENGLAND—In this course, New England is regarded as a unit. Although the history of agriculture and rural life is treated with special fulness, ample attention is given to political, religious and ethical history. It is hoped that the student will not only be led to an intelligent understanding of present economic conditions, but will also be imbued with a progressive loyalty to the highest ideals of the New England of the past. Lectures and required reading; 3 hours. Credit 3. MR.. HOLCOMB.

5. THE HISTORY OF IDEALS—This course treats history from the idealistic, rather than from the economic, point of view. It attempts to define the great ideals which have impelled some of the most important social, political, esthetic, scientific, ethical and religious movements of medieval and modern history, and to trace the causes of the success or failure of the movements to which these ideals have led. Christianity, including monasticism, modern Catholicism and Protestantism; medieval art and architecture; the modern scientific movement; and social and political democracy will be treated historically from this point of view. Lectures and reading; 3 hours. Credit 3. MR. HOLCOMB.

Languages and Literature

Professor Mills.

LANGUAGES AND LITERATURE: ENGLISH

Associate Professor Neal, Assistant Professor McKay, Assistant Professor Lewis, Mr. Wattles, Miss Goessmann, Mr. Green.

Required Courses (English Language)

1, 2. FRESHMAN ENGLISH—Associate Professor Neal, Assistant Professor McKay, Mr. Wattles, Miss Goessmann.

3. SOPHOMORE ENGLISH—All sophomores. See "A" below. Assistant Professor Lewis, Mr. Wattles.

4. SOPHOMORE ENGLISH—All sophomores except those excused under Department rules. Mr. Wattles.

A. USE OF LIBRARY—Required of all sophomores as part of course 3. Mr. Green.

Elective Courses (English Language)

(TEACHERS' TRAINING COURSES: In English Language and Literature, a group of courses will hereafter be offered intended especially for students who contemplate teaching and wish to qualify for positions that call for the teaching of English, either by itself or in association with some branch of science. This group at present will consist of courses 7, 8, and 17 in English Language, and courses 11, 12, and 18 in English Literature.)

7, 8. COMPOSITION TRAINING COURSES—Students will follow the work of the classes in English 1-2, and will have personal charge of small groups of freshmen for the criticism of themes and other instruction. They must be able to arrange hours for attending recitations in the freshman courses. Study of more advanced theory will be provided in assigned readings. Primarily for juniors (or sophomores with advanced standing), but open to seniors. Student readers must before appointment have passed one or both of these courses. Three hours. Credit 3.

Associate Professor Neal, Assistant Professor McKay, Mr. Wattles.

9. JOURNALISM—*9B. Introduction to Journalism*: The first semester course introduces the student to foundation conceptions and aims of journalism, and gives practice in simple forms of journalistic writing. It is preparatory to all other work in journalism. Course 9A will not be given this year. Associate Professor Neal.

10. JOURNALISM—*10A and B. Reporting*: News-gathering and news writing. This includes the gathering and present-

ing of agricultural information as a branch of reporting. Members of the class will need free time for covering assignments. Those who have not had course 9B will be given additional work. Associate Professor Neal.

(NOTE—Courses 9 and 10 are preliminary courses, and should precede more advanced work, such, for instance, as specialized work in agricultural journalism.)

17. ADVANCED COMPOSITION—Not given in 1911-12.

Elective Courses (English Literature)

9, 10. CULTURAL READING—(The number of Departments under the direction of which reading may be done will be lessened.)

13. ENGLISH WRITERS AND THOUGHT—Studies, laboratory problems, readings, reports; Chaucer to the sixteenth century. Three hours. Credit 3.
Associate Professor Neal.

14. ENGLISH WRITERS AND THOUGHT—The sixteenth century to Shakspere. Three hours. Credit 3.
Associate Professor Neal.

15, 16. ENGLISH LANGUAGE AND LITERATURE—
Assistant Professor Lewis.

18. ADVANCED LITERATURE—Readings and laboratory problems; Tennyson. Three hours. Credit 3.
Associate Professor Neal.

LANGUAGES AND LITERATURE: PUBLIC SPEAKING

Assistant Professor McKay.

Required Courses

1. FRESHMAN PUBLIC SPEAKING—
Assistant Professor McKay

2. FRESHMAN PUBLIC SPEAKING—
Assistant Professor McKay

Elective Courses

8. ORATORY— Assistant Professor McKay
9. DEBATING— Assistant Professor McKay
10. DRAMATIC READING— Assistant Professor McKay

LANGUAGES AND LITERATURE: GERMAN

Assistant Professor Ashley, Mr. Grauer.

Required Courses

1. ELEMENTARY GERMAN Mr. Grauer
2. ELEMENTARY GERMAN— Mr. Grauer
3. INTERMEDIATE GERMAN—
Assistant Professor Ashley

3A. INTERMEDIATE GERMAN— Mr. Grauer

4. INTERMEDIATE GERMAN—
Assistant Professor Ashley

4A. INTERMEDIATE GERMAN— Mr. Grauer

5 ADVANCED GERMAN— Assistant Professor Ashley

Elective Courses

6 ADVANCED GERMAN— Assistant Professor Ashley

7. MODERN GERMAN— Assistant Professor Ashley

8. MODERN GERMAN— Assistant Professor Ashley

9. SCIENTIFIC GERMAN—Reading of modern magazine articles and works in German of a scientific nature. Different work assigned according to needs of individual students. Open to Juniors who have completed course 4A or more advanced work. 3 hours. Credit 3.
Assistant Professor Ashley.

10. SCIENTIFIC GERMAN—As stated under Course 9.
Assistant Professor Ashley

11. GERMAN LITERATURE—Advanced language and literary study. Conducted entirely in German. Lectures on German Literature and History; life, customs and travel in Germany. Collateral readings, including masterpieces of different epochs, such as Niebelungenlied, Goethe's Faust, and one modern typical drama. Prerequisite, Course 6 or 10.
Assistant Professor Ashley.

12. GERMAN LITERATURE—As stated under Course 11.
Assistant Professor Ashley

LANGUAGES AND LITERATURE: FRENCH

Assistant Professor Mackimmie, Mr. Harmount.

Required Courses

1. ELEMENTARY FRENCH— Mr. Harmount

2. ELEMENTARY FRENCH— Mr. Harmount

3. INTERMEDIATE FRENCH—
Assistant Professor Mackimmie, Mr. Harmount

4. INTERMEDIATE FRENCH—
Assistant Professor Mackimmie, Mr. Harmount

5. ADVANCED FRENCH—
Assistant Professor Mackimmie, Mr. Harmount

Elective Courses

6. ADVANCED FRENCH—
Assistant Professor Mackimmie, Mr. Harmount

7, 8. SCIENTIFIC FRENCH—This course is intended to continue and enlarge the scientific readings begun in the

freshman and sophomore years. It will consist of the reading of a scientific reader, outside readings and reports, and the careful reading of some recent work or series of articles in the subject in which the student is taking his major. Prerequisite, the required French or its equivalent. Intended principally for Juniors. 3 hours. Credit 3.

Mr. Harmount.

9, 10. FRENCH LITERATURE FROM 1852—The outline is intended as a suggestion. The exact subject matter of the course will be determined when the men are enrolled. The object of this course is to give an introduction to the movements of French literature in the past fifty years. In the drama readings from Augier, A. Dumas, fils, Delavigne; in the novel from Flaubert, the de Concourts, Zola; in criticism from Taine, Renan and Sainte Beuve; for the literary history of the period Lanson's Histoire de la litterature française. Prerequisite, the required French. Juniors or Seniors. 3 hours. Credit 3.

Assistant Professor Mackimmie.

LANGUAGES AND LITERATURE: SPANISH

Assistant Professor Mackimmie.

Elective Courses

1. ELEMENTARY SPANISH—
Assistant Professor Mackimmie

2. MODERN SPANISH AUTHORS—
Assistant Professor Mackimmie

LANGUAGES AND LITERATURE: MUSIC

Assistant Professor Ashley.

Elective Courses

1. HISTORY AND INTERPRETATION OF MUSIC—
Assistant Professor Ashley

2. HISTORY AND INTERPRETATION OF MUSIC—
Assistant Professor Ashley

Division of Rural Social Science

President Butterfield.

AGRICULTURAL ECONOMICS

Assistant Professor Cance, Associate Professor Eyerly.

Required Course

2. AGRICULTURAL INDUSTRY AND RESOURCES—
Assistant Professor Cance

Elective Courses

4. ELEMENTS OF AGRICULTURAL ECONOMICS—
Assistant Professor Cance

5. HISTORICAL AND COMPARATIVE AGRICULTURE
Assistant Professor Cance

6. CO-OPERATION IN AGRICULTURE—Announcement of modification to be made later.
Assistant Professor Cance (Part I.)
Associate Professor Eyerly (Part II.)

7. SPECIFIC PROBLEMS IN AGRICULTURAL ECONOMICS— Assistant Professor Cance

9, 10. SEMINAR— Assistant Professor Cance

AGRICULTURAL EDUCATION

Professor Hart, Assistant Professor Jenks.

Elective Courses

1. MEANING OF EDUCATION (PSYCHOLOGY)—
Professor Hart

2. VOCATIONAL EDUCATION (HISTORY AND PHILOSOPHY)— Professor Hart

3. METHODS (RURAL SCHOOL PROBLEMS)—
Professor Hart

4. TEACHERS' AGRICULTURE—
Professor Hart and Assistant Professor Jenks

5, 6. SEMINAR IN EDUCATION— Professor Hart

RURAL SOCIOLOGY

Associate Professor Eyerly, President Butterfield, Professor Hart, Mr. Holcomb.

Elective Courses

2. THE RURAL COMMUNITY—A broad survey of the field of rural sociology, including such topics as the movements of the rural population, the social conditions and life of rural people, the influence of rural life, the description of the various social institutions of the rural community, an analysis of the fundamental problems of rural life, and the means of developing and redirecting the life of the rural community. Lectures, readings and essays on assigned topics. 3 hours. Credit 3.
President Butterfield and Associate Professor Eyerly.

3. THE LITERATURE OF RURAL LIFE—A critical and appreciative study of writers, both in prose and poetry, who have interpreted Nature from the viewpoint of the lover of country life, and those who have idealized agriculture, horti-

culture, and other rural pursuits, together with those who have upheld as an ideal the development of a rural environment in cities; 3 hours. Credit 3. MR. HOLCOMB.

4. RURAL LAW—The work of this course will cover such points as land titles, public roads, rights incident to ownership of live stock, contracts, commercial paper, and distinctions between personal and real property. Text, written exercises, lectures, and class discussions. 1 hour. Credit 1. PROFESSOR HART.

5. THE SOCIAL CONDITIONS OF THE RURAL PEOPLE—Composition of the rural population; vital statistics; nature, extent and causes of diseases and accidents; health agencies of control; extent and causes of delinquency and dependency; conditions of temperance, of sexual morality and family integrity; child labor; woman's work and position; relation of employer to employee; standard of living; size of family; cultural ideals; community consciousness and activity; standards of business conduct and of political ethics. 3 hours. Credit, 3. ASSOCIATE PROFESSOR EYERLY.

6. SOCIOLOGICAL ASPECTS OF CO-OPERATION AMONG FARMERS—Social causes of early unsuccessful attempts at co-operation among farmers in the United States; social conditions and personal qualities necessary to successful co-operation as these are exemplified especially in European countries; the various forms of co-operative organization viewed in their intellectual and moral aspects; the influence of co-operation on individualism, conservatism, self-help and social strain, on scientific agriculture, on farm labor, on legislation; the relation of co-operation to neighborhood life, to community pride and loyalty, to further associated effort, to class stability, solidarity and status; the demand of co-operation for a new type of leadership. 3 hours. Credit, 3. (Given in 1911-12; not given in 1912-13). ASSOCIATE PROFESSOR EYERLY.

7. RURAL INSTITUTIONS—A study of the organized agencies by which rural communities carry on their various forms of associated life; particularly a study of the ways by which the domestic, economic, cultural, religious and political institutions contribute to rural betterment. Special attention given to the rural family and the rural church. 3 hours. Credit, 3. ASSOCIATE PROFESSOR EYERLY.

8. THE STATE AND THE FARMER—Not given in 1911-12. ASSOCIATE PROFESSOR EYERLY.

9. THE SOCIAL PSYCHOLOGY OF RURAL LIFE—Characteristics of the rural mind; character of hereditary

and environmental influences; nature and effects of face to-face groups; psychological effects of isolation, relative security and freedom from strain; relation of contact with nature, of control over immediate environment, of family co-operation and of neighborhood life to self-control, self expression, sympathy, service and leadership; nature and effects of fashion, conventionality and custom; character of discussion and public opinion and their relation to class feeling and organization; relation of individualism, conservatism, and homogeneity to crowd phenomena and progressive democracy. 3 hours. Credit, 3.

Associate Professor Eyerly.

10. FARMERS' ORGANIZATIONS—The history, purposes, and achievements of the Grange, the Farmers' Union, farmers' clubs, village improvement associations, boys' clubs. etc.; the nature, scope, methods and history of local, state and national associations formed about some farm product or special farm interest, e. g., dairying, horticulture, stock breeding, forestry; their influence on "better farming, better business, better living;" their influence in forming a class consciousness and in shaping legislation; need of federation. 3 hours. Credit, 3. Associate Professor Eyerly.

11. SOCIOLOGICAL ASPECTS OF CURRENT AGRICULTURAL QUESTIONS—Government conservation policy, roads, railways, trolleys, telephones, postal service, credit facilities, taxation, pure food laws, tenancy and ownership, intensive versus extensive farming, agricultural labor. 3 hours. Credit, 3. Associate Professor Eyerly.

13. SEMINAR—Subject for 1911-12: Correctional Agriculture. Associate Professor Eyerly.

General Departments

MILITARY SCIENCE AND TACTICS

Captain Martin, Mr. Parsons.

Required Courses

1. INTRODUCTION TO MILITARY SCIENCE AND TACTICS— Captain Martin
2. INTRODUCTION TO MILITARY SCIENCE AND TACTICS— Captain Martin
3. PRACTICE OF MILITARY SCIENCE AND TACTICS Captain Martin

4. PRACTICE OF MILITARY SCIENCE AND TACTICS
Captain Martin
5. THEORY OF MILITARY SCIENCE AND TACTICS—
Captain Martin
6. THEORY OF MILITARY SCIENCE AND TACTICS—
Captain Martin
7. PRACTICE OF HIGHER MILITARY SCIENCE AND TACTICS— Captain Martin
8. PRACTICE OF HIGHER MILITARY SCIENCE AND TACTICS— Captain Martin
9. THEORY OF HIGHER MILITARY SCIENCE AND TACTICS— Captain Martin
10. THEORY OF HIGHER MILITARY SCIENCE AND TACTICS— Captain Martin

Elective Courses

11. ADVANCED MILITARY SCIENCE AND TACTICS—
Captain Martin
12. ADVANCED MILITARY SCIENCE AND TACTICS—
Captain Martin

PHYSICAL EDUCATION AND HYGIENE

Assistant Professor Hicks.

Hygiene

Required Courses

1. HYGIENE— Assistant Professor Hicks

Physical Education

Required Courses

1. ELEMENTARY GYMNASTICS—
Assistant Professor Hicks
2. ELEMENTARY GYMNASTICS—
Assistant Professor Hicks
3. GRADED GYMNASTICS— Assistant Professor Hicks
4. GRADED GYMNASTICS— Assistant Professor Hicks
5. HEAVY GYMNASTICS— Assistant Professor Hicks
6. HEAVY GYMNASTICS— Assistant Professor Hicks

Elective Courses

7. TRAINING COURSE— Assistant Professor Hicks
8. TRAINING COURSE— Assistant Professor Hicks
9, 10. ADVANCED GYMNASTICS—
Assistant Professor Hicks

MAN (EPTEMBER, 1911

AFTERNOON

2:30

ZOOLOGY	A	Gordon	E F		
PHYSICS	B 1	Butman	M D		
French	I	Harmount	SC C		
German	VIII	Grauer	F A		
Pub. Speak.		McKay	SC G		
Hygiene	II	Hicks	SC F		
CHEMISTRY	VII	Peters	C R		
ZOOLOGY	B	Gordon	E F		
PHYSICS	A 1	Butman	M D		
French	I	Harmount	SC C		
German	VI	Grauer	F A		
Pub. Speak.		McKay	SC G		
Hygiene	III	Hicks	SC F		
CHEMISTRY	VIII	Peters	C R		
BATTALION DRILL					
ZOOLOGY	A	Gordon	E F		
PHYSICS	B 2	Butman	M D		
French	II	Harmount	SC C		
German	VIII	Grauer	F A		
Pub. Speak.		McKay	SC G		
Hygiene	V	Hicks	SC F		
CHEMISTRY	III	Peters	C R		
ZOOLOGY	B	Gordon	E F		
PHYSICS	A 2	Butman	M D		
French	II	Harmount	SC C		
German	VI	Grauer	F A		
Pub. Speak.		McKay	SC G		
CHEMISTRY	IV	Peters	C R		

JUNIOR and SENIOR CLASSES for SEPTEMBER, 1911

NOTES

Small type indicates lecture or recitation.

Capitals indicate laboratory exercise

On junior and senior schedule, Arabic numbers correspond to catalog number of courses.

On freshman and sophomore schedule, Roman numerals indicate sections of classes.

The first column of capital letters indicates the building, in accordance with the key found below, the second column designates the room in the building.

KEY TO BUILDINGS:

A—Animal Husbandry Building
B—Clark Hall.
C—Chemistry Laboratory.
E—Entomological Laboratory
F—French Hall.
L—Old Insectary.
M—Mathematics Building.
SC—South College.
V—Veterinary Laboratory.
W—Wilder Hall.

FORENOONS

8.30

MONDAY

Rural Soc	7	Lyerly	I D
Mathematics	11	Ostrander	I R
Vet Sci	3	Paige	V H
Ani Husbandry	5	McLean	SC B
Rural Lit	3	Holcomb	A
Pub. Speaking	8	McKay	SC G
Forestry	1	Moon	F E
Economics III	1	Sprague	B B

TUESDAY

Rural Soc	7	Lyerly	I D
Mathematics	11	Ostrander	I R
Vet Sci	3	Paige	V H
Ani Husbandry	5	McLean	SC B
Rural Lit	3	Holcomb	A
Pub Speaking	9	McKay	SC G
Forestry	1	Moon	F E

WEDNESDAY

Rural Soc	7	Lyerly	I D
Mathematics	11	Ostrander	I R
Vet Sci	3	Paige	V H
Ani Husbandry	5	McLean	SC B
Rural Lit	3	Holcomb	A
Pub Speaking	8	McKay	SC G
Forestry	1	Moon	F E

THURSDAY

Vet Sci	3	Paige	V H

FRIDAY

Agr Ed	3	Hart	V
Forestry	3	Moon	F E
Vet Sci	3	Paige	V H
History	3	Lyerly	I D
Chemistry	5	Chamberlain	C I
English Lit	9	Neal	SC C
Economics	3	Sprague	B B
Mathematics	7	Ostrander	I R
Agr Econ	7	Cance	SC G

9.30

MONDAY

Agr Ed	3	Hart	V
Forestry	3	Moon	F E
History	3	Lyerly	I D
Chemistry	5	Chamberlain	C V
English Lit	9	Neal	SC C
Economics	3	Sprague	B B
Mathematics	7	Ostrander	I R
Agr Econ	7	Cance	V B

TUESDAY

Agr Ed	3	Hart	V
Forestry	3	Moon	F E
History	3	Lyerly	I D
Chemistry	5	Chamberlain	C V
English Lit	9	Neal	SC C
Economics	3	Sprague	B B
Mathematics	7	Ostrander	I R
Agr Econ	7	Cance	V B
German	11	Ashley	W A

WEDNESDAY

Mathematics	15	Ostrander	I D
Rural Soc	9	Lyerly	M C
Chemistry	7	Chamberlain	C V
English Lit	11	Neal	SC C
Economics II	1	Sprague	B B
Poultry Husb	1	Graham	V
Agr Econ	5	Cance	V B

THURSDAY

German	11	Ashley	F A
Mathematics	15	Ostrander	I R
Rural Soc	9	Lyerly	I D
Chemistry	7	Chamberlain	C V
English Lit	11	Neal	SC C
Poultry Husb	1	Graham	V
Economics III	1	Sprague	B B
Agr Econ	5	Cance	V B

FRIDAY

German	11	Ashley	F A
Mathematics	15	Ostrander	I R
Rural Soc	9	Lyerly	I D
Chemistry	7	Chamberlain	C V
English Lit	11	Neal	SC C
Economics II	1	Sprague	B B
Poultry Husb	1	Graham	V
Agr Econ	5	Cance	V B

10.30

MONDAY

Farm Adm	3	Foord	SC B
Botany 7, 9, 11, 13		Stone	H A
Land Gard	3	Waugh	W A
Agronomy	3	Haskell	SC D
Chemistry	9	Wellington	C V
Floriculture	1	White	F E
English Lit	15	Lewis	SC G

TUESDAY

Pomology	2	Sears	W B
Floriculture	3	White	F E
Bacteriology	3	Gage	V B
Entomology	5	Fernald	E K
Botany	3	Osmun	F A
Land. Gard	1	Harrison	W A
Dairying	1	Lockwood	SC B
Chemistry	9	Wellington	C V
English Lit.	15	Lewis	SC F
Economics	5	Sprague	H B
Land Gard	5	Waugh	W B
History	5	Holcomb	V
Rural Soc	11	Lyerly	I D
Entomology	1	Fernald	E D
Spanish	1	Mackimmie	SC C
French	7	Harmount	SC G
German	7	Ashley	F A
ZOOLOGY	5	Gordon	E

WEDNESDAY

English Lit	15	Lewis	SC F
Economics	5	Sprague	H B
Land Gard	5	Waugh	W B
History	5	Holcomb	V
Rural Soc	11	Lyerly	I D
Entomology	1	Fernald	E D
Spanish	1	Mackimmie	SC C
French	7	Harmount	SC G
German	7	Ashley	F A
LAND GARD	7	Waugh	W

THURSDAY

Economics	5	Sprague	H B
History	5	Holcomb	V
Rural Soc	11	Lyerly	I D
Entomology	1	Fernald	E D
Spanish	1	Mackimmie	SC C
French	7	Harmount	SC G
German	7	Ashley	F A
DRAWING	1	Harrison	W

11.30

MONDAY

French	9	Mackimmie	F D
German	9	Ashley	F A
Rural Soc	5	Lyerly	I D
Chemistry	13	Chamberlain	C V
Physics	3	Putman	M B
Economics I	1	Sprague	B B
Agr Ed	1	Hart	V
Ani Husb	11	McLean	A
Zoology	5	Gordon	E K

TUESDAY

Zoology	3	Gordon	E K
French	9	Mackimmie	F D
Rural Soc	5	Lyerly	I D
Chemistry	13	Chamberlain	C V
Physics	3	Putman	M B
Economics	1	Sprague	B A
Agr Ed	1	Hart	V
Ani Husb	11	McLean	A

WEDNESDAY

German	9	Ashley	F A
Rural Soc	5	Lyerly	I D
Chemistry	13	Chamberlain	C V
Physics	3	Putman	M B
Economics I	1	Sprague	B A
Agr Ed	1	Hart	V
Ani Husb	11	McLean	A

THURSDAY

Chemistry	17	Wellington	C V
Entomology	3	Crumpton	E D
Dairying	3	Lockwood	SC B
Horticulture	3	White	F E
Zoology	3	Gordon	E K
Bacteriology	1	Gage	V B
LAND GARD	7	Waugh	W
German	9	Ashley	F E
Market Gard	3	Yeaw	F A
Botany	5	Osmun	B A
Pomology	1	Sears	W B
French	9	Mackimmie	F D
Agronomy	5	Haskell	SC D
DRAWING	1	Harrison	W

AFTERNOONS

MONDAY

		2 to 4			3 to 5		
CHEMISTRY	17	Wellington	C D	CHEMISTRY	17	Wellington	C D
ENTOMOLOGY	3	Fernald	I H	ENTOMOLOGY	3	Fernald	E H
MARKET GARD	3	Yeaw	F	DAIRYING	3	Lockwood	SC A
BOTANY	5	Osmun	H	LAND GARD	7	Waugh	W
PATHOLOGY	1	Sears	W	HORTICULTURE	3	White	F C
DRAWING	1	Harrison	W	ZOOLOGY	3	Gordon	E
CHEMISTRY	5	Chamberlain	C A	BACTERIOLOGY	1	Gage	V A
AGRONOMY	5	Haskell	SC D	ANIMAL HUSB	7	McLean	A
				AGRONOMY	5	Haskell	SC D
				CHEMISTRY	5	Chamberlain	C A
CHEMISTRY	17	Wellington	C D	CHEMISTRY	17	Wellington	C D
ENTOMOLOGY	3	Fernald	I H	DAIRYING	3	Lockwood	SC A
MARKET GARD	3	Yeaw	I	LANDSCAPE	7	Waugh	W
BOTANY	7	Osmun	H	HORTICULTURE	3	White	F C
PATHOLOGY	1	Sears	W	ZOOLOGY	3	Gordon	E
DRAWING	1	Harrison	W	BACTERIOLOGY	1	Gage	V A
FLORICULTURE	1	White	F C	ANIMAL HUSB	1	McLean	A
				BOTANY	3	Osmun	H

ASSEMBLY 1.30 BATTALION DRILL 2.30

THURSDAY

FARM ADM	3	Foord	SC B	BOTANY 7, 9, 11, 13		Stone	H
BOTANY 7, 9, 11, 13		Stone	H	PATHOLOGY	3	Sears	W
LANDSCAPE 1.30 to 4		Wright	W	FLORICULTURE	3	White	F C
AGRONOMY	3	Haskell	SC D	BACTERIOLOGY	3	Gage	V A
CHEMISTRY	9	Wellington	C D	ENTOMOLOGY	5	Fernald	E
FLORICULTURE	1	White	F C	BOTANY	3	Osmun	H
				CHEMISTRY	9	Wellington	C D
				DAIRYING	1	Lockwood	SC A
				ZOOLOGY	5	Gordon	E
				LANDSCAPE 2.30 to 5.30	1	Harrison	W

FRIDAY

FARM ADM	3	Foord	SC B	BOTANY 7, 9, 11, 13		Stone	H
BOTANY 7, 9, 11, 13		Stone	H	PATHOLOGY	3	Sears	W
LANDSCAPE 1.30 to 4		Wright	W	FLORICULTURE	3	White	F C
AGRONOMY	3	Haskell	SC D	BACTERIOLOGY	3	Gage	V A
FLORICULTURE	1	White	F C	ENTOMOLOGY	5	Fernald	E
				BOTANY	3	Osmun	H
				CHEMISTRY	9	Wellington	C D
				DAIRYING	1	Lockwood	SC A
				ZOOLOGY	5	Gordon	E
				LANDSCAPE 2.30 to 5.30	1	Harrison	W

SOPHOMORE and FRESHMAN CLASSES for SEPTEMBER, 1911

FORENOONS

	8.30				9.30				10.30				11:30			
MONDAY 1914	Zoology		Gordon	E D	English	I	Lewis	E K								
					French	II	Mackimmie	F D								
					German	II, III	Grauer	F A	English	III	Wattles	SC F	English	II	Wattles	SC F
1915 1916	English	I	Neal	SC C	English	III	Wattles	SC C	French	I	Mackimmie	F D				
	English	II	Wattles	SC F	English	IV	McKay	SC G	German	I	Ashley	F A				
	French	III	Mackimmie	F D	Geometry	I	Duncan	M C	Algebra	III	Machmer	I B	Geometry	VIII	Duncan	M C
	German	VII	Ashley	F A	Algebra	II	Parsons	I G	Algebra	VII	Parsons	I G	Algebra	VI	Machmer	I B
	Geometry	IV	Duncan	M C	Chemistry	V, VI, VII	Peters	C I								
	Algebra	V	Parsons	I G												
TUESDAY 1914	Physics	I	Hasbrouck	M B	Physics	III	Hasbrouck	M B	Physics	II	Hasbrouck	M B	English	II	Wattles	SC F
	French	III	Harmount	E K	French	II	Mackimmie	F D	French	I	Mackimmie	F D				
	German	II, III	Grauer	F A					German	I	Ashley	F A				
1915 1915									English	III	Wattles	SC F				
	English	VII	Neal	SC C	English	V	Wattles	SC F								
	English	VIII	Wattles	SC F	English	VI	McKay	SC G	Geometry	VIII	Duncan	M C	German	VII	Ashley	F A
	French	III	Mackimmie	F D	German	VIII	Grauer	F A	Algebra	I	Machmer	I B	Geometry	II	Duncan	M C
	Geometry	IV	Duncan	M C	Geometry	III	Duncan	M C	Algebra	II	Parsons	I G	Algebra	VI	Machmer	I B
	Algebra	V	Parsons	I G	Algebra	VII	Parsons	I G	Chemistry	V, VI, VII	Peters	C I	Algebra	VIII	Parsons	I G
					Chemistry	I, II, IV	Peters	C I								
WEDNESDAY 1914	Physics	II	Hasbrouck	M B	Physics	III	Hasbrouck	M B								
	French	III	Harmount	E K	French	I	Mackimmie	F D								
	English	I	Lewis	E K	German	I	Ashley	F A	Physics	I	Hasbrouck	M B	Agronomy	I	Haskell	SC B
					Agronomy	II	Haskell	SC B	Agronomy	III	Haskell	SC B	French	II	Mackimmie	F D
1915 1915	English	I	Neal	SC C	English	III	Wattles	SC F	Geometry	VI	Duncan	M C	Geometry	III	Duncan	M C
	English	II	Wattles	SC F	English	IV	McKay	SC G	Algebra	IV	Machmer	I B	Algebra	VI	Machmer	I B
	French	III	Mackimmie	F D	German	VI	Grauer	F E	Algebra	VII	Parsons	I G	Algebra	II	Parsons	I G
	German	VII	Ashley	F A	Algebra	I	Machmer	I B	Chemistry	III, VIII	Peters	C I				
	Geometry	IV	Duncan	M C	Algebra	VIII	Parsons	I G								
	Algebra	V	Parsons	I G												
THURSDAY 1914	Physics	I	Hasbrouck	M B	Physics	III	Hasbrouck	M B								
	French	III	Harmount	E K	Agronomy	II	Haskell	SC B								
	German	II, III	Grauer	F A					Physics	II	Hasbrouck	M B	Agronomy	I	Haskell	SC B
1915 1915									Agronomy	III	Haskell	SC B				
	English	VII	Neal	SC C	English	V	Wattles	SC F	Geometry	V	Duncan	M C	Geometry	II	Duncan	M C
	English	VIII	Wattles	SC F	English	VI	McKay	SC G	Algebra	I	Machmer	I B	Algebra	III	Machmer	I B
	French	III	Mackimmie	F D	Geometry	VII	Duncan	M C	Chemistry	III, VIII	Peters	C I	German	VII	Ashley	F A
	Algebra	IV	Machmer	I B	Chemistry	I, II, IV	Peters	C I								
FRIDAY 1914	Physics	I	Hasbrouck	M B	Physics	III	Hasbrouck	M B	Physics	II	Hasbrouck	M B				
	Agronomy	II	Haskell	SC B	Agronomy	I	Haskell	SC B	Agronomy	III	Haskell	SC B				
1915 1914	English	I	Neal	SC C	English	VII	Neal	SC C	Geometry	V	Duncan	M C				
	English	II, III	Wattles	SC F	English	V, VIII	Wattles	SC F	Algebra	III	Machmer	I B	Geometry	VII	Duncan	M C
	English	IV	McKay	SC G	English	VI	McKay	SC G	Algebra	VIII	Parsons	I G	Algebra	IV	Machmer	I B

AFTERNOONS

	1.30				2:30				3:30				4:30			
MONDAY 1914	ZOOLOGY	A	Gordon	E F	ZOOLOGY	A	Gordon	E F	PHYSICS	B 3	Butman	M D	PHYSICS	B 3	Butman	M D
	PHYSICS	B 1	Butman	M D	PHYSICS	B 1	Butman	M D	French	II	Harmount	SC C	English (all)			
	French	IV	Harmount	SC C	French	I	Harmount	SC C	German	VI	Grauer	F A				
1915 1915	German	V	Grauer	F A	German	VIII	Grauer	F A	Pub. Speak.		McKay	SC G				
	Pub. Speak.		McKay	SC G	Pub. Speak.		McKay	SC G	Hygiene	IV	Hicks	SC F				
	Hygiene	VI	Hicks	SC F	Hygiene	II	Hicks	SC F	CHEMISTRY	V	Peters	C R	CHEMISTRY	V	Peters	C R
	CHEMISTRY	VII	Peters	C R	CHEMISTRY	VII	Peters	C R								
TUESDAY 1914	ZOOLOGY	B	Gordon	E F	ZOOLOGY	B	Gordon	E F								
	PHYSICS	A 1	Butman	M D	PHYSICS	A 1	Butman	M D	PHYSICS	A 3	Butman	M D	PHYSICS	A 3	Butman	M D
	French	IV	Harmount	SC C	French	I	Harmount	SC C	French	II	Harmount	SC C	English (all)			
1915 1914	German	V	Grauer	F A	German	VI	Grauer	F A	Hygiene	I	Hicks	SC F				
	Pub. Speak.		McKay	SC G	Pub. Speak.		McKay	SC G	Pub. Speak.		McKay	SC G				
	Hygiene	VII	Hicks	SC F	Hygiene	III	Hicks	SC F	CHEMISTRY	VI	Peters	C R	CHEMISTRY	VI	Peters	C R
	CHEMISTRY	VIII	Peters	C R	CHEMISTRY	VIII	Peters	C R								
WEDNESDAY	ASSEMBLY 1:30				BATTALION DRILL				BATTALION DRILL							
THURSDAY 1914	ZOOLOGY	A	Gordon	E F	ZOOLOGY	A	Gordon	E F								
	PHYSICS	B 2	Butman	M D	PHYSICS	B 2	Butman	M D	PHYSICS	B 4	Butman	M D	PHYSICS	B 4	Butman	M D
	French	IV	Harmount	SC C	French	II	Harmount	SC C								
1915 1914	German	V	Grauer	F A	German	VIII	Grauer	F A								
	Pub. Speak.		McKay	SC G	Pub. Speak.		McKay	SC G	French	I	Harmount	SC C	English (all)			
	CHEMISTRY	III	Peters	C R	Hygiene	V	Hicks	SC F	Hygiene	VIII	Hicks	SC F				
					CHEMISTRY	III	Peters	C R	CHEMISTRY	II	Peters	C R	CHEMISTRY	II	Peters	C R
FRIDAY 1914	ZOOLOGY	B	Gordon	E F	ZOOLOGY	B	Gordon	E F								
	PHYSICS	A 2	Butman	M D	PHYSICS	A 2	Butman	M D	PHYSICS	A 4	Butman	M D	PHYSICS	A 4	Butman	M D
	French	I	Harmount	SC C	French	II	Harmount	SC C	French	IV	Harmount	SC C	English (all)			
1915 1914	German	V	Grauer	F A	German	VI	Grauer	F A	German	VIII	Grauer	F A				
	Pub. Speak.		McKay	SC G	Pub. Speak.		McKay	SC G	Pub. Speak.		McKay	SC G				
	CHEMISTRY	IV	Peters	C R	CHEMISTRY	IV	Peters	C R	CHEMISTRY	I	Peters	C R	CHEMISTRY	I	Peters	C R

S

3:30					4:30				
YSICS	B 3	Butman	M	D	PHYSICS	B 3	Butman	M	D
nch	II	Harmount	SC	C	English (all)				
man	VI	Grauer	F	A					
). Speak.		McKay	SC	G					
giene	IV	Hicks	SC	F					
EMISTRY	V	Peters	C	R	CHEMISTRY	V	Peters	C	R
YSICS	A 3	Butman	M	D	PHYSICS	A 3	Butman	M	D
nch	II	Harmount	SC	C	English (all)				
giene	I	Hicks	SC	F					
). Speak.		McKay	SC	G					
EMISTRY	VI	Peters	C	R	CHEMISTRY	VI	Peters	C	R
TTALION DRILL									
YSICS	B 4	Butman	M	D	PHYSICS	B 4	Butman	M	D
nch	I	Harmount	SC	C	English (all)				
giene	VIII	Hicks	SC	F					
EMISTRY	II	Peters	C	R	CHEMISTRY	II	Peters	C	R
YSICS	A 4	Butman	M	D	PHYSICS	A 4	Butman	M	D
nch	IV	Harmount	SC	C	English (all)				
man	VIII	Grauer	F	A					
). Speak.		McKay	SC	G					
EMISTRY	I	Peters	C	R	CHEMISTRY	I	Peters	C	R

3 0112 105820648